CLAIMS

What is claimed is:

Claim 1. A method for diagnosing or monitoring multiple sclerosis (MS) in a mammal comprising:

obtaining a sample of body fluid from said mammal, wherein said body fluid includes blood, blood products and saliva;

contacting said sample with at least one protein associated with multiple sclerosis, wherein said contacting is by an enzyme-linked immunosorbent assay (ELISA);

determining a level of at least one autoantibody specific for said at least one protein in said sample; and,

comparing said level of said at least one autoantibody with statistically significant levels thereof, wherein diagnosis or monitoring of MS in said mammal is achieved.

Claim 2. The method of claim 1, wherein said mammal is a human.

Claim 3. The method of claim 1, wherein said protein is myelin basic protein (MBP).

Claim 4. The method of claim 1, wherein said ELISA comprises the steps of:

mixing said sample with at least one compound effective to optimize the signal to noise ratio;

contacting said sample with an immunosorbent comprising said at least one protein having a high specific affinity for said at least one autoantibody; and,

determining an amount of said at least one autoantibody bound by said at least one protein on said immunosorbent using an antibody composition having an affinity for said at least one autoantibody and operably linked to a signal generating system.

Claim 5. The method as in claim **4**, wherein said signal generating system is a tetramethylbenzidine substrate.

Claim 6. The method as in claim **4**, wherein said at least one autoantibody is anti-MBP IgG.

Claim 7. The method as in claim **6**, wherein said antibody composition comprises purified anti-human IgG conjugated to horseradish peroxidase.

Claim 8. The method as in claim **4**, wherein said at least one autoantibody is anti-MBP IgM.

Claim 9. The method as in claim **8**, wherein said antibody

composition comprises purified anti-human IgM conjugated to horseradish peroxidase.

Claim 10. The method as in claim **4**, wherein said at least one autoantibody includes anti-MBP IgG and anti-MBP IgM.

Claim 11. A kit for diagnosing multiple sclerosis (MS) or monitoring disease state in MS patients, comprising:

at least one biomolecule or an immunologically detectable fragment thereof which is upregulated in MS patients, said biomolecule having an affinity for at least one additional biomolecule whose presence is diagnostic of MS, said at least one biomolecule being immobilizable on a solid support; and,

at least one labeled biomolecule having a binding affinity for said at least one additional biomolecule;

whereby performance of at least one analysis determinative of the presence of statistically significant levels of said at least one biomolecule or an immunologically detectable fragment thereof, is carried out on a sample of body fluid and provides a means for diagnosing or monitoring disease state.

Claim 12. The kit as defined in claim **11**, wherein said sample of body fluid is blood, blood products, or saliva.

Claim 13. The kit as defined in claim **11**, wherein said at

least one biomolecule is myelin basic protein (MBP).

Claim 14. The kit of claim **11**, wherein said at least one additional biomolecule includes anti-MBP IgM and anti-MBP IgG.

Claim 15. The kit as defined in claim **11**, wherein said at least one additional biomolecule is anti-MBP IgM.

Claim 16. The kit as defined in claim **15**, wherein said labeled biomolecule is anti-human IgM conjugated to horseradish peroxidase.

Claim 17. The kit as defined in claim **11**, wherein said at least one additional biomolecule is anti-MBP IgG.

Claim 18. The kit as defined in claim **17**, wherein said labeled biomolecule is anti-human IgG conjugated to horseradish peroxidase.

Claim 19. The kit of claim **11**, wherein said monitoring is carried out on a single sample.

Claim 20. The kit of claim **11**, wherein said monitoring is carried out on multiple samples such that at least one analysis is carried out on a first sample and at least another analysis

is carried out on a second sample.

Claim 21. The kit of claim 20, wherein said first and second samples are obtained at different time periods.